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Of The American Entomological Society will be held at 7.30 o'clock P.M. on the fourth Thursdays of each month, excepting June, July, August, November and December, and on the third Thursdays of November and December.

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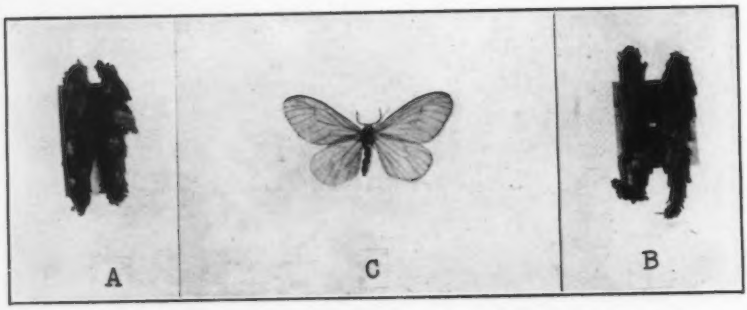

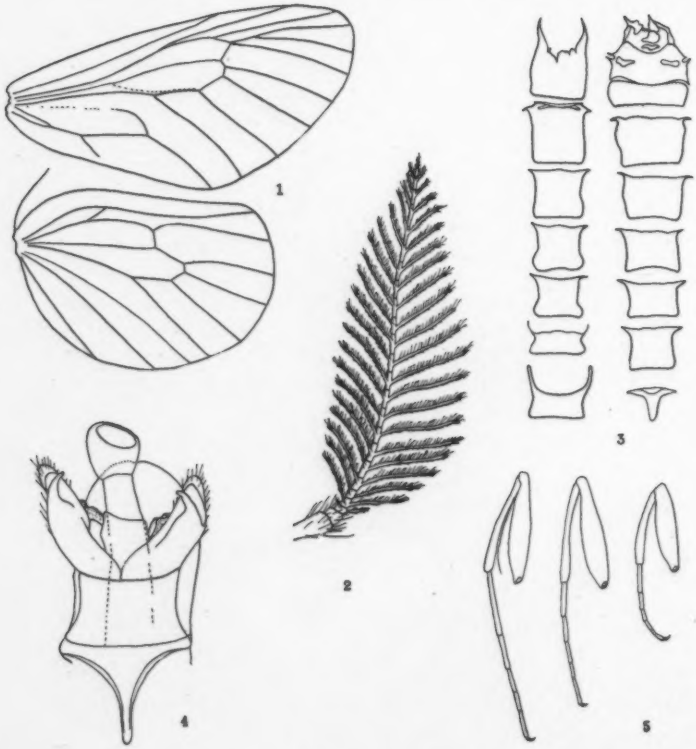

HYALOSCOTES FUMOSA BUTLER.—JONES.

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Hyaloscotes fumosa Butler (Lepidoptera, Psychidae).

By FRANK MORTON JONES, Wilmington, Delaware.

(Plate IV.)

In 1871-72 Lord Walsingham travelled extensively through California and Oregon, devoting "much time to collecting Lepidoptera;" so abundant was the material thus acquired, that, after an interval of more than fifty years, the British Museum (where the Walsingham collection is now preserved, under the care of Mr. Durrant), in many groups has a better representation of the Lepidoptera of the Pacific coast, than it possesses from those Atlantic States where collectors and collections have been so much more numerous, and from which it has been receiving material for so many more years. Of the several hundred names based upon his collections, it is remarkable that so large and conspicuous an insect as *Hyaloscotes fumosa* Butler (the types taken by Walsingham in Shasta and Siskiyou counties, California) should have continued to elude observation for more than fifty years, and still to be unrecognized and apparently unrepresented in American collections.

Of *fumosa,* the type material consists of five males; in the

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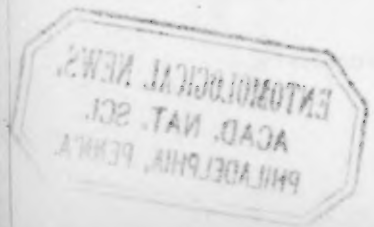
British Museum (general collection), one specimen labeled "Mt. Shasta" has been designated as the type, the others, labeled "Siskiyou Co.," becoming paratypes; all are in good preservation, and are undoubtedly conspecific. Through the generosity of the Museum authorities, the writer was permitted to dissect one of the five specimens, and to bring another of them to the United States, where it will be accessible for comparison whenever the insect is turned up by American collectors. Though Butler referred *fumosa* to the *Lithosiidae*, in our lists it has been correctly included in the *Psychidae*, though always with doubt as to its position and relationship within the family. Study of its structure shows it to be specifically and generically distinct from all our other described Psychids whose males are known, excepting possibly *pithopoera* Dyar; that Butler did not recognize its true position is the more remarkable, not only because in all its characters it is beyond question a Psychid, but also in that even in its superficial appearance it closely approaches several familiar European species; for *fumosa* Butler is very like *Sterrhopterix standfussi* H.-Sch. Structurally, *Hyaloscotes* is separable from *Sterrhopterix* and from the larger species of our own "short-winged" Psychids, by the possession of a long spine on the fore tibia, as well as (usually) by venational characters. Dyar (Insecutor, XI, 3, 1923) refers *fumosa* to *'Pachytelia'* Westw., and Barnes & Benjamin (Contributions, V, (3), 186, 1924) suggest *Canephora* Hbn. as an alternative; *Hyaloscotes*, however, with its slender build, its longer, rounded, and more translucent wings, the oblique outer margin and shorter inner margin of its primaries, is fully as far removed, on the one side, from *Pachythelia* Westw. (genotype, *villosella* Ochs.), as the densely-scaled straight-margined *Canephora* Hbn. (*unicolor* Hufn., genotype) is on the other. The writer suggests, therefore, the retention of *Hyaloscotes* Butler as a valid American genus, and would amplify and correct Butler's characterization of the genus and species by the following notes and the accompanying illustrations: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Hyaloscotes Butler (Lepidoptera, Psychidae).

Of slender build. Antennae bipectinate, the branches of moderate length and decreasing gradually to the tip; shaft and branches sparsely clothed with narrow appressed scales. Legs slender, the first pair the longest, the third pair much the shortest; the fore tibia with a long spine, the tibiae otherwise unarmed. Body-vestiture hairy, divergent. Wings proportionately large, semi-translucent, thinly clothed with narrow scales which are denser on the veins and margins. Primaries elongate-trigonal, angles rounded; outer margin rounded, oblique; inner margin short, the inner angle opposite the proximal origin of vein 3. Wings 11-7-veined, 6 absent from both wings; the anal vein of primaries sends a branch toward the inner margin, 1 *b* and 1 *c* anastomosing opposite the proximal origin of vein 2, thence coincident to the inner angle; on the secondaries, an oblique bar connects 7 and 8, mid-way of the cell; veinlets in cell (both wings) simple. Genotype, *fumosa* Butler.

Hyaloscotes fumosa Butler.

Expanse 27 to 31 mm. (Butler's measurements, pin to tip, doubled; the wings of the type material are slightly deflexed, and tip to tip measurements give a range from 25 to 28.5 mm.). The antennae have 24 joints. On the primaries, 8 and 9 are shortly stemmed to the cell, 7 usually arising from a point with the stem of 8 and 9; 4 and 5 of both wings usually separate from their origin at the cell, but rarely stemmed to the cell; these two variations, where they occur in the type material, are in only one wing, the opposite wing normal. The abdominal plates are broad and entire, the 7th sternite much shortened and of unusual form; the 8th sternite is short and wide, its rods short, almost straight, and slightly divergent; the genitalia are wide, the saccus short and tapering, the aedoegus thick and clumsy.

Dyar's association (*l. c.*) of this insect with *fragmentella* Hy. Edw. (and its supposed synonym, *coniferella* Hy. Edw.) will probably prove correct, when all three are bred. *Fragmentella* has time priority over *fumosa*, page priority over *coniferella*, and is a valid name based upon a description of the pupa and larval case; *coniferella*, based upon description of the larval case only (a structure manufactured by, not a

part or stage of, the insect), is doubtfully valid in any event.

In comparing *pithopoera* Dyar with *fumosa* Butler, Dyar (*l. c.*) was misled by an error in a sketch of the venation of *fumosa*, sent him from England. The two insects are identical in venation and closely similar in appearance. Dr. Dyar has mounted a fore leg of the unique type of his species, and in this mount we are unable to detect the long tibial spine characteristic of *fumosa;* but we do not consider this single mount necessarily conclusive, for these slender spines are sometimes broken off, sometimes closely appressed and invisible in a balsam mount. In view of the otherwise close resemblance of these two insects when directly compared, and of their obvious differences from other North American forms whose males are known, *pithopoera* Dyar should be included under *Hyaloscotes* Butler until the acquisition and study of additional material makes possible its satisfactory disposition.

Through the courtesy of the American Museum of Natural History in furnishing photographs of the type material, it has been possible to include on Plate III figures of the larval cases of *fragmentella* and *coniferella* Hy. Edwards, hitherto unillustrated. With these Hy. Edwards types is now deposited in the American Museum the paratype of *fumosa* Butler from the British Museum, so that the type material upon which the three names (all probably synonymous) are based, is now assembled in one place for future comparisons.

EXPLANATION OF PLATE IV.

Psyche fragmentella Hy. Edwards.

A. Larval cases (type material, A. M. N. H.).

Psyche coniferella Hy. Edwards.

B. Larval cases (type material, A. M. N. H.).

Hyaloscotes fumosa Butler.

C. Male paratype, A. M. N. H.

1. Venation, wings of ♂, paratype, Brit. Mus.
2. Antenna, paratype, Brit. Mus.
3. Abdominal plates, paratype, Brit. Mus.
4. Genitalia, paratype, Brit. Mus.
5. Legs, paratype, Brit. Mus.

Descriptions of New Genera and Species of the Dipterous Family Ephydridae. VII.

By E. T. Cresson, Jr.

Cerometopum lacunosum new species.

Black; third antennal segment, palpi, middle and hind tibiae, all tarsi except apices, tawny to yellow. Wings yellowish with pale veins, and posterior cross-vein infuscated. Shining to polished. Frons and face strongly sculptured; mesonotum, scutellum and the bases of abdominal segments densely granulo-scabrous. Facialia with three deep, transverse depressions, leaving the medial area convex and granulose; cheeks nearly one-third as broad as eye-height. Scutellum quadrate, rather flat with apical bristles emitted from small, elongate tubercles. Fore femora very turgid; the apical half of posterior flexor margin with fine, closely set spines. Length.—2.25 mm.

Type.—Male; Higuito, San Mateo, Costa Rica, (Pablo Schild), [U. S. National Museum collection, No. 28265].

Trimerinoides new genus.

Genotype.—Trimerina adfinis Cresson, 1922.

Head in profile rather flatly ovate with frontal and facial contour nearly vertical; eyes vertically elongate; vertex sharp; face long, transversely convex, with two bristles each side on lower part, the upper pair strong and cruciate; mesonotum convex with setulae in series; scutellum flat; abdomen convex, with lateral margins revolute.

Ceropsilopa adjuncta new species.

Very similar to *nasuta* Cresson, 1917, but smaller; antennae shorter, scarcely attaining lower fourth of face; base of third segment yellow. Face more convex, not so prominent below middle, but in certain aspects with suggestion of a globose swelling at middle; fore femora entirely black.

Type.—Male? Adjuntas, Porto Rico, June, 1915, [American Museum of Natural History collection]. *Paratypes.*—1 ♂? Manati, 1914, March; 1 ♀? Arecibo, March, 1914; 1 ♀? Naguabo, March, 1914; all from Porto Rico, [all Am. Mus. Nat. Hist.].

Ceropsilopa staffordi new species.

This differs from the more typical species in having the facial bristles low, below line of buccal orbit; the face is strongly convex but weakly so in profile; lunule not depressed; antennal spine short; ocellar bristles situated between the anterior and posterior ocelli.

Black; antennae, basal segment of abdomen; legs, including coxae, and wing veins except base of costa, pale yellow; halteres white; wings immaculate with yellowish tinge. Shining, but more or less obscured by cinereous pollen; frons and apex of abdomen polished; face densely cinereous. Length.—1.5 mm.

Type.—Male; New Orleans, Louisiana, October 3, 1921, (E. W. Stafford), [A. N. S. P., No. 6299].

Glenanthe litorea new species.

The species of this genus have the eyes strongly constricted below by a deep emargination at the post-buccal region. The present species is distinguished from the European *G. ripicola* Haliday by the dark antennae and legs, and the more numerous mesofrontal setulae.

Black; knees, tarsi except apices, yellow; halteres white; wings brownish, becoming lactaceous inferiorly, veins dark. Opaque, whitish gray, becoming brownish above. Length.—1.7 mm.

Type.—Male; Wildwood, New Jersey, September 18, 1920, (Cresson; over wet salt marsh), [A. N. S. P., No. 6300]. *Paratypes.*—Thirty-nine topotypical specimens of both sexes.

Ditrichophora nadineae new species.

In this species we have much to suggest the species of *Psilopa,* especially in the general build and the curvature of the second vein, and the latter, the pale antennae and tarsi, are the salient characters.

Black; antennae, apex of femora, base and apex of tibiae, all tarsi including their apices, tawny; halteres whitish; wings clear, with pale veins. Shining species; frons subopaque, brownish to grayish; face slightly brownish especially foveae; mesonotum more or less bronze, sparingly ochreous. Abdomen rotund. Second vein rather abruptly curving to costa, making second section of latter not twice as long as third. Length.—2 mm.

Type.—Male; Berkeley Hills, Alameda County, California, April 20, 1908, (Cresson), [A. N. S. P., No. 6348]. *Paratypes.*—1 ♂, 3 ♀; topotypical.

I name this interesting species after Miss Nadine Isabel Westaway, my little friend and ideal companion on many of the collecting jaunts among the Berkeley Hills. The many specimens in the collection before me from this locality are a constant reminder of the enjoyable days spent in California and of the acquaintances made there.

Ephydra pacifica new species.

Allied to *E. atrovirens* Loew in having a long, lateral, subbasal hair on the third antennal segment; differing from that species in having the face more projecting and distinctly retreating below, with the foveae and medial area equally shining.

Black; halteres yellow. Frons and upper part of face metallic green or blue, faintly brown pruinose; lower portion entirely white; cheeks gray to greenish behind. Mesonotum metallic green, faintly pruinose; scutellum concolorous; pleura opaque brown, grayish below. Abdomen metallic green with brown dusting. Length.—6 mm.

Type.—Male; Vancouver, British Columbia, April 5, 1902, (R. J. Crew), [A. N. S. P., No. 6344].

The Third International Congress of Entomology.

[*In re* the announcement published in the NEWS for May, 1925, page 148.]

The Entomological Society of Belgium at its meeting of March 7, 1925, received the following report which was approved by the members present:

Information is given to the meeting of this date that the permanent Belgian Committee on International Congresses of Entomology unanimously refuses its aid to, and participation in, the Entomological Congress announced by foreign journals before it had been consulted; it disputes the opportuneness of this Congress and denies its right to international representation. The committee recalls, moreover, the decision of the Oxford Congress which designated Vienna as the meeting place of the Third International Congress of Entomology. (Bulletin and Annales, Soc. Ent. Belg. LXV, p. 55).

Melanoplus stonei in Michigan (Orth., Acrid.).

By THEODORE H. HUBBELL, University of Florida, Gainesville, Fla.

The large collection of Orthoptera made at Sand Point, Huron County, Michigan, by the Michigan Biological Survey expedition of 1908, contained a series of fourteen specimens of a grasshopper which was determined by Mr. A. P. Morse as *Melanoplus foedus* Scudder. In 1911 these specimens were recorded under that name by their collector, Mr. A. F. Shull, in his report on the Thysanoptera and Orthoptera of the region.

Since this constituted the only record for the species from east of the Mississippi River it was of considerable interest. In 1918 Mr. W. S. Blatchley requested the loan of the specimens for study. Regarding them he wrote: "I found that the specimens were correctly named *Melanoplus foedus* by Morse, but that name is a synonym of *Melanoplus packardii* Scudder. The specimens from Michigan agree exactly with red-legged specimens from Colorado, except in size, they being slightly smaller than average *packardii*." In his "Orthoptera of Northeastern America" Blatchley has included *Melanoplus packardii* in his treatment of the eastern species of the genus on the basis of this one record, the only one for either *foedus* or *packardii* in the area covered.

On August 26, 1919, I found a small number of specimens on the shore of Crystal Lake, Michigan, which were identified as *packardii* on the strength of Blatchley's determination of the Huron County material, with which they entirely agreed. A short time later other specimens of the same species were received from Miss Priscilla Butler, which were collected in July and August of the same year at Douglas Lake, Michigan. Specimens from all three of these localities were sent to Mr. J. A. G. Rehn to have the identification verified. They were named by him *Melanoplus stonei* Rehn, Mr. Morgan Hebard concurring with him in this determination.

Melanoplus stonei was described by Rehn in 1904 from the pine barrens of New Jersey. According to its author, it is "a member of the Packardii Group and related to *M. packardii*

and *foedus*, but distinguished by the smaller size, more compressed and excavated vertex and fastigium, the narrower frontal costa (which also has a distinct stricture below the junction with the fastigium), the smaller furcula, the greater interval between the mesosternal lobes in both sexes, and in the rich and striking coloration." I have compared Michigan specimens of *stonei* with specimens of *packardii* from North Dakota, Oklahoma and Colorado, and it is evident that in spite of slight variation, especially in color, *stonei* is perfectly distinct in the characters pointed out by Rehn, and there should be no real difficulty in separating the two species. It is necessary, therefore, to drop *Melanoplus packardii* from the eastern list, as the only record of the species east of the Mississippi is based on a misidentification.

Since 1919 extensive field work has shown that *Melanoplus stonei* has a rather general distribution in northern Michigan. It has been taken in a dozen localities, and has proved to be common and even locally abundant in its characteristic habitat. This is the more remarkable, since the surprisingly small number of records of *stonei* published in the twenty years since its description seems to indicate that elsewhere it is either rare or very local in its occurrence.

Melanoplus stonei is quite definite in its habitat preferences, and close observation of the species in the field soon enables one to predict with a fair degree of certainty whether or not it will be found in any particular situation. In New Jersey *stonei* is stated to occur only in the northern portion of the pine barrens, and Rehn notes that it is apparently rather abundant there in dry scrubby pine land. In Michigan I have found it in much the same sort of situations. Its favorite home is the great area of jack-pine barrens in the northern part of the state.

In the Huron Mountain region of Marquette County the species is common in burned-over pine barrens a short distance inland from the shore of Lake Superior. The dominant tree of the thin and irregular forest which covers these sandy plains is the jack-pine (*Pinus banksiana*), a close relative of the Jer-

sey scrub pine. The more open portions (considerable areas are almost without tree growth) support a scanty ground vegetation of blueberry bushes, bracken ferns, and clumps of xerophilous grasses, while much of the sandy soil is bare except for a covering of gray reindeer moss. Most of the Orthoptera associated with *M. stonei* in this habitat are species characteristic of bare soil or scanty vegetation—some of the more numerous being *Camnula pellucida, Spharagemon collare scudderi, Circotettix verruculatus, Scirtetica marmorata marmorata, Melanoplus mexicanus atlanis* and *M. fasciatus.*

In the lower peninsula *M. stonei* was found to be abundant in a slightly less xerophytic type of habitat in Montmorency County. Here, in the burned-over barrens of this region, the species is most numerous in the more open country between the pine groves, where the scattered jack-pines are interspersed with an occasional scrubby oak, aspen, sand cherry or Juneberry. There is more ground vegetation; the sandy soil is covered with a thin sod of grasses, while sweet fern, bracken, several species of blueberries, and a number of hardy flowering herbs grow here. Reindeer moss is not common. The greater supply of food and the less rigorous conditions of life are reflected in the larger number of species and individuals of grasshoppers found in this area. *Melanoplus confusus* appeared to be the dominant form, with *M. stonei, Pseudopomala brachyptera* and *Orphulella speciosa* common. *Arphia sulphurea, Spharagemon bolli, Camnula pellucida, Melanoplus fasciatus* and *M. dawsoni* were also taken in numbers, while *Chloealtis conspersa, Scirtetica marmorata marmorata, Hesperotettix pratensis,*[1] *Melanoplus mexicanus atlanis, Phaneroptera pistillata, Conocephalus saltans, Gryllus assimilis* and *Nemobius fasciatus* were less numerous.

I have also found *Melanoplus stonei* in the dune belts along the shores of the Great Lakes in the straights region. The situation in which it was found at Crystal Lake is fairly typical of the conditions under which I have taken it along the lake shores. Crystal Lake was formerly a deep arm of Lake Michi-

[1] July 11-14, 1923; 5 ♂, 5 ♀, 3 juv. The first Michigan record.

gan, the mouth of which has been blocked by a high ridge of dune sand. On a portion of the north shore steep clay bluffs descend to the level of the broad sandy beach, and for a distance of several yards from the base of the bluff the beach is covered with a thick but uneven growth of bearberry (*Arctostaphylos uva-ursi*) and two species of scrubby Juniper (*Juniperus horizontalis* and *J. communis depressa*), with a few other characteristic beach plants. *Melanoplus stonei* was found in small numbers in openings in this mat of vegetation, among the dead leaves and twigs which litter the sand.

Shull's records state that his specimens were found "on bare or somewhat grassy beaches, or in sandy woods, always in dry places. Found on sand or soil, not on vegetation." In 1922 I also found *stonei* common on Sand Point, in the grass and blueberry undergrowth of the open oak and jack-pine forests on the sandy ridges back of the beach. Rehn writes that he has never found *stonei* in the types of habitat frequented by *packardii* [open grassy prairie, pastures, cultivated land, weed thickets, etc.], but always in brushy woodland, generally on poor soil. At Godbout, Quebec, Mr. E. M. Walker found it "on the coarse grasses of a sea-beach, and sparingly in open jack-pine barrens."

In his excellent ecological study of the Acrididae of the Douglas Lake region, and in a subsequent paper in Entomological News, Mr. A. G. Vestal has recorded *Melanoplus angustipennis* from Douglas Lake, Cheboygan County, Michigan. He lists this species as a dominant form of the bracken-blueberry habitat, and as frequent or occasional in bare soil, beach grass and ruderal grassland habitats. It is remarkable that, in the several rather large collections of Orthoptera which have been made by subsequent workers at the Douglas Lake Biological Station, I have never seen a specimen of *M. angustipennis*, while *M. stonei*, which Vestal does not mention, was well represented. This makes me suspect that the species which he regarded as *M. angustipennis* may in reality have been *M. stonei*, whose habitat distribution, as I have observed it, seems to accord well with that which he gives for his *M. angustipen-*

nis. The latter species does occur in Michigan, as I have specimens from Berrien, Wayne, Oakland and Gratiot counties. All of these records are, however, from the southern portion of the lower peninsula, and in my own collecting I have never found it in the northern part of the state.

The earliest Michigan record of adult specimens of *Melanoplus stonei* is June 20 (Sand Point). On this date it was apparently just maturing, as many of the specimens seen were teneral, and late nymphal stages were numerous. In July and early August it reaches its greatest abundance in Michigan; but it is not known how late it may occur, as there has been no collecting later than August 26 in the parts of the state where it is found.

The present status of the species is indicated below:

Melanoplus stonei Rehn.

1904. Rehn, Ent. News, xv, 85. [Between Harris and White Horse, Burlington County, New Jersey (Type locality); Atsion, Burlington County, New Jersey.]

1910. Smith, Ann. Rept. N. J. State Mus., 1909, 184. [Stafford's Forge, New Jersey.] [In the low scrub under mixed pine and oak and on bare sand near pine woods.]

1914. Fox, Proc. Acad. Nat. Sci. Phil., 1914, 514. [Restricted to the New Jersey Pine Barrens, and so far reported only from its northern portion.]

1920. Blatchley, Orth. Northeastern Amer., 432. [Chatsworth and Harris, New Jersey; Godbout, Quebec; Ft. William, Ontario.]

1921. Hubbell, 22nd Rept. Mich. Acad. Sci., 1920, 125. [Douglas Lake, Cheboygan County; Crystal Lake, Benzie County; Sand Point, Huron County, Michigan.]

Melanoplus foedus Shull 1911 (not of Scudder 1879), Mich. Geol. Biol. Surv. Publ. 4, Biol. Ser. 2, 227. [Saginaw Bay [Sand Point], Huron County, Michigan.]

Melanoplus packardii Blatchley 1920 (in part, not of Scudder 1878), l. c., 430. [Saginaw Bay, Huron County, Mich.]

? Melanoplus angustipennis Vestal 1913 (? not of Dodge 1877), Biol. Bull., xxv, 145, 147, 149, 153, 163, 165, 168,

171, 173, 176. [Douglas Lake, Cheboygan County, Michigan. Detailed ecological study.]

1914. Vestal, Ent. News, xxv. 108. [Douglas Lake, Cheboygan County, Michigan.]

The Michigan records are as follows:

Northern Peninsula—

Marquette County: Huron Mountain Club, vii. 8-19. 1921 (T.H.H.) 14 ♂, 10 ♀.

Mackinac County: St. Ignace, vii. 24. 1921 (T.H.H.) 9 ♀; Naubinway, vii. 29. 1921 (T.H.H.) 2 ♂, 2 ♀.

Southern Peninsula—

Cheboygan County: Douglas Lake, vii. 3-viii. 9. 1919 (Priscilla Butler) 1 ♂, 9 ♀; vii. 19. 1920 (H.H. Lü) 1 ♂.

Emmett County: Big Stone Bay, vii. 30. 1921 (T.H.H.) 3 ♂, 17 ♀.

Charlevoix County: High Island, vii. 7. 1922 (S. Moore) 1 ♀; Sec. 1, Norwood twp., viii. 7. 1923 (T.H.H.) 1 ♀.

Montmorency County: T. 32 N., R. 1 E., vii. 10-12. 1923 (T.H.H.) 34 ♂, 55 ♀.

Alcona County: Harrisville, viii. 10. 1921 (F. M. Gaige) 2 ♂, 5 ♀.

Benzie County: Crystal Lake, viii. 26. 1919 (T.H.H.) 2 ♂, 3 ♀.

Clare County: Lake George, vii. 10-24. 1921 (H. M. MacCurdy) 1 ♀.

Huron County: Sand Point, vi. 22-viii. 3. 1908 (A. F. Shull) 10 ♂, 4 ♀; vi. 20-27. 1922 (T. H. H. and R. F. Hussey) 9 ♂, 3 ♀.

McCook's Ant Mounds in Pennsylvania, Revisited (Hymen.: Formicidae).

By E. A. Andrews, Johns Hopkins University, Baltimore, Maryland.

Among the remarkable native animals of the Eastern parts of the United States are the mound building ants which may be found in clearings, cut over woods, abandoned fields and little frequented areas not given up to agriculture or intensive grazing. With increase of human population these ant mounds seem doomed to ever greater restriction and ultimate extinction, some phases of which process may be witnessed readily. Their headquarters along the Alleghanies seem less densely

populated and the most famous center of their civilization has been decimated.

One mile north of Holidaysburg, near Altoona, Pennsylvania, on the south-west base of Brush Mountain, in the summer of 1876, the Rev. H. C. McCook camped out one week in the middle of August and made a study of the great mounds built by the ant, *Formica exsectoides*.

In about fifty acres he counted 1300 mounds and estimated that the number might be 1700; about 29 to the acre. The land, then owned by the Cambria Iron Company, was open woods of oak, pine, maple, dogwood, hickory; on sandy soil full of red-brown sandstones. This region was called the "Ant City" by the natives. One acre contained 33 mounds, another 25; average 29.

McCook published six photographic plates in the *Transactions of the American Entomological Society*, vol. 6 (1877), showing the size, shape and groupings of some of the typical mounds as well as their internal structure.

Another region, some twenty miles away from Holidaysburg, at Pine Hill and at Warrior's Mark, was studied by a student, Mr. Edgar B. Kay, under Mr. McCook's influence. There also the mounds were very numerous and large. Thus at Warrior's Mark two acres contained 55 mounds; another region of 2¼ acres contained 74; with average of 30 to the acre. At Pine Hill the mounds were as extensive and as thickly placed as at Holidaysburg. Thirty acres were occupied; five were carefully surveyed and contained 293 hills; the average being 59 to the acre. It was estimated that the 30 acres had 1800 hills evenly over it.

Measurements of these mounds showed that, while the beginning mound is but a handful of dirt, it is common to find them 10 to 12 feet in circumference and 2½ to 3 feet high. The largest were at Pine Hill and Warrior's Mark. One cone was 12 feet across and 30 feet around; another 15 across and 37 around. Two double mounds were 15 across lengthwise and 47 around base. Another double was 24 lengthwise and 58 in circumference, with height of 42 inches; the largest hill

of all and built upon an old charcoal hearth, quite level. These double hills were common and apparently occupied by one colony. One double hill at Warrior's Mark, 19 by 47 feet, was deserted and washed down on the north but active on the south and south-east. Others showed this same difference in aspects, north and south. At this region fully one-fourth of the entire number were abandoned mounds, but at Holidaysburg very few were abandoned.

The mounds photographed by McCook were very fine cones of regular shape; often one larger central and smaller outlying cones, four to six feet away. That the cone is not entirely symmetrical is shown by the measurements given. Thus one hill, Plate II, was 8 feet and 7 inches across, 25 feet around. Over the summit it measured 10 feet 3 inches, but the north face was 4 feet 3 inches, the south 4 feet 4 inches; the west 6 feet 9 inches and the east 3 feet 6 inches.

McCook estimated that a mound took 5-7 years in the making, and that then the ants colonized and built up other mounds near by. This conclusion rested upon the fact that ground plowed in 1875 and 1876 was subsequently occupied by ant mounds, four of which were measured by farmer Prough and Mr. John McGinn. The rate of growth was calculated by McCook as 1¼ cubic feet per year in one case, 3 cubic feet in another, 1 cubic foot in each of the other cases.

A trolley line from Altoona to Holidaysburg began to run June 14, 1893, and a prophesy was published that this fine community of ant hills at Holidaysburg would be killed out by the advent of the trolley line. To see what changes had taken place within 50 years, I visited this place and also Warrior's Mark the past summer.

July 3, 1924, an examination of the ant mound region on the base of Brush Mountain where McCook counted 1300 mounds, revealed now scattered mounds on interrupted parts of about 20 acres, both sides of the paved pike and double trolley line. The former wooded area now is partly taken up with suburban mansions and lawns with some woods left, even some oaks 2 feet in diameter.

About 10 acres east of the trolley contained 33 active and 7 deserted mounds; a half acre near there contained 6 mounds, while adjacent four and a half acres contained 2 active, 1 young and deserted mound. The average size was about 13 inches in height and 24 inches in width; the largest was 26 in height and 18 feet in circumference, with an old deserted twin near it elongated to the south.

Of the three new and rapidly growing mounds the smallest was 6½ inches in height and 17 wide and full of grass. In fact most of the mounds had much grass growing upon them. But Japanese honeysuckle being entirely absent, the usual cleared area about the base of the mounds was not so conspicuous. Many of the deserted mounds were as usual full of holes at the base of the northerly face.

In all there were on the east side of the road about 42 living and 8 dead mounds in about 15 acres, but others may have escaped notice, though much of the adjacent area is lawns and ornamental grounds free from mounds; and the wooded area possible to hold mounds was rather thoroughly explored.

Many of these mounds show fine cones and measurements of the slopes of one were 45° on the North, 34° on the South, 31° on the West, and 35° on the East, taken with level and carpenters' adjustable mitre angle. Over the road on the West the woods are less built up with houses as yet, and the ground lies lower. Search near the road revealed 13 active and 2 dead scattered over some 5 acres; farther away from the road, others may have escaped notice. Among the 13 were two twin mounds and one very steep mound supported with grass growing about its lower parts. This one measured: height 21½ inches, circumference 10 feet 8 inches, north-south diameter 32 inches, east-west diameter 36 inches. The north, a very steep descent of about 22 inches and angle of 60°; south slope only 47½°; east 52° and west 43°. As far as seen the remnant of McCook's 1300 mounds in fifty acres, is thus a mere 55 living and 10 dead over about 20 acres. Where were 39 are now but 3 to the acre. The area occupied is shrunken and the size of the hills diminished.

The General Manager of the Electric Railway writes: "The ant hills were quite large. I believe some of the longest were enough to fill a one or two ton truck. They commenced disappearing as soon as houses were erected and human beings began to occupy this territory. At the present day they are almost gone and the few hills that are remaining would not fill a bushel measure." This diminution is the more marked as the name on the station-house of the trolley line here is "Ant Hills" in remembrance of the phenomenal size and abundance of the mounds when first the trolley came through this wooded area, and it seems most probable that the clearing of the land for house and lawn building was the chief reason for the great reduction in extent of this large community of ants and their dwellings.

In contrast to this clash of civilizations, human and formic, were the findings about Warrior's Mark, where conditions of man's making have not so greatly changed in the past 48 years.

Along the road approaching Pennington Railroad Station from the west and nearing Warrior's Mark, the cultivated fields on the left or north are in contrast with large cut-over areas on right or south, where close to the road are 26 good active mounds in some 2 acres of pasture thick set with sprouting stumps and small scrub oak, *Quercus ilicifolia*. Here the ants were feeding on aphids with long black and white stripes, on white pine trees; and also upon minute young galls near tips of above oaks but few feet from the ground. This region reaches on toward the barren to be mentioned later as along the road to Birmingham and is probably the same general settlement of ant communities.

Beyond Warrior's Mark cross roads, ant mounds were found in various cut-over regions, but the great number were back to the west toward the above mentioned area stretching across the railroad to the south of Pennington Station.

August 1, a fine mound was measured amidst twenty more toward the east of the above region and dozens more were noted along the side roads. The measurements of this mound were as follows: Height 26 inches, circumference 18 feet,

with an inconspicuous moat about the base, where the cows have grazed, while on the mound itself the short and sparse grass left only the apex more bare to the south. The tape down the north face from the summit was 3 feet 3 inches, down the south face 4 feet, the west 3 feet 4 inches, the east 3 feet 6 inches. The mound was of sand with fine vegetable fragments on the top. The slopes: N. 35°, S. 37°, W. 35°, and E. 37°. This region is continuous with that about the Birmingham road. Along this road are very many mounds and so out to the west amidst burnt trees of cut-over barren and huckleberry bushes innumerable. One large mound of fine sand and vegetable fragments and no grass stood out conspicuously amidst the huckleberry plants and was measured as follows: Heighth 32 inches, circumference 27 feet. Surrounded only by burned trees, there was no shade on this mound and one fallen burned branch ran under the mound north to south.

The angles of slope were: N. 23°, S. 24-5°, W. 27½°, E. 27½°. The north side seemed steeper as it was short and lacking in talus which ran out on the southerly face. The tape over top north to apex was 3 feet 7 inches, south 5 feet, east 4 feet 4 inches, west 4 feet.

No estimation of the numbers of mounds per acre, or in all, was made, but it seemed that this region east and west of the railroad and south of the pike might still contain some approach to the numbers reported to McCook in 1876, though it is very doubtful if the mounds are either as large or as numerous as they then were.

That all the mounds east and west of Pennington Station form one nation, or confederation of nations, or are made by ants not strangers to one another, may be indicated by the following experiments. Ants taken from the mounds west of Pennington, where the ants were feeding on galls of scrub oak, were kept over night in closed preserve jars and liberated after thirty hours on large mound near Pennington Station along road to Birmingham, thus several miles from native hill. They ran about actively and seemed to attack the natives and were not molested by them.

However, ants carried from the large community in Maryland, near Timonium, and kept in like jars about the same length of time, when liberated on this mound in several trials here and there over the mound, acted differently from the natives and were often seized by the antennae and dragged down to the base and into the openings of the mound. The same fate of Maryland ants was observed when they were liberated, about 30 hours after capture, on a small mound at Holidaysburg. They then ran about and solicited food from the Holidaysburg ants, but often they were seized by the antennae and dragged down to the base. Others of these Maryland ants taken to the Pennsylvania ant mounds west of Pennington Station and liberated on mounds of above ants feeding on scrub oak galls, were seized by the natives and either carried off or dragged by the antennae down to the base of the mound and into the holes there.

Thus over a large area the native ants of Pennsylvania may be introduced into each others' hills without obstacle, but the ants from Maryland both acted differently from the natives and were generally differently received and taken in as if alien to the community.

Assuming all these ants near Pennington to be of one stock as compared with those near Timonium in Maryland, the diminution in size and in number of mounds may be compared to the dwindling of a tribe of American Indians. The mound dwellers of such a region form a widespread individuality expanding over acres under favorable conditions somewhat as does an individual plant of the box huckleberry, *Gaylussacia brachycera*. But under present conditions this ant-tribe-individual is on the wane and may well disappear into the realm of the dodo and passenger pigeon, where observations are no more possible.

Correction.

Through an oversight the number of the News for March, 1925, is given on the cover as Vol. XXXVI No. 2. It should have been Vol. XXXVI No. 3. The correct number is given on the first page (page 65) of that issue. Subscribers to this journal will please make this correction.

Notes on Some Little Known Thrips (Thysanoptera).

By GLENN W. HERRICK, Cornell University, Ithaca, New York.

During the past year, several species of thrips have come to my notice that are of considerable interest more especially on account of their distribution and food habits.

In the June number of the *Canadian Entomologist* (1924) the late Mr. Treherne described a new species of thrips found on Mt. McLean in British Columbia at an elevation between 6,000 and 7,000 feet as *Taeniothrips orionis*. During the past summer Professor and Mrs. C. R. Crosby spent the month of August in Pingree Park, Colorado, and while collecting spiders Mrs. Crosby took many individuals of a species of thrips in at least three different localities in the Park at elevations of from 9,000 to 10,000 feet. Apparently the species was very abundant nearly everywhere in that region even during the abnormally dry season of 1924. Many specimens were taken from *Aquilegia coeruleum* and many other individuals were taken in sweepings, from various plants. The species proved to be *Taeniothrips orionis*, although the color is considerably darker than the paratype specimen that Mr. McDunnough of Ottawa was kind enough to loan me for comparison. It also differs somewhat in the shape of the abdomen but the color pattern of the antennae, legs, and wings is the same as in *T. orionis* and it seems to me that the two are identical with the slight variation noted due to differences, perhaps, in its geographical situation.

It is interesting to find this species occurring at these high elevations and extending from British Columbia southward along nearly the same horizon.

In October of 1923, Dr. M. D. Leonard sent me some specimens of thrips taken from *Lilium canadense* by Dr. A. B. Stout in the New York Botanical Gardens. I was unable to refer this to any native species of *Liothrips* and therefore submitted some of the specimens to Mr. J. D. Hood of Rochester, New York, and to Mr. R. S. Bagnall of New Castle on Tyne, England, with the surmise that they might represent an introduced species. Mr. Hood at once referred them to *Liothrips vaneeckei*, a European species described from Leiden,

Holland. Some time later Mr. Bagnall wrote me "Your *Liothrips* is interesting and is referable to Priesner's *L. vaneeckei*, found in Holland, affecting bulbs of *Lilium pardalinum*, a very interesting confirmation of specialized pabulum." Dr. Stout found them working in the scales of bulbs of *Lilium canadense* and causing some injury. Thus this thrips has probably become established in America and is proving true to its original habits of confining its work to lily bulbs for the present so far as we know. Whether it will change and broaden its food habits, perhaps becoming a pest to other plants, it is impossible to predict.

An interesting gall-forming species of *Liothrips* occurs on *Cornus stolonifera* in certain bogs of central New York, notably in the Junius bogs south of Rochester. On June 22, 1922, Mr. S. C. Bishop collected two individuals which came to my desk this summer. The thrips live on the leaves of the plant and apparently check the growth of the leaves and cause galls on them. The galls are in evidence on the upper sides of the leaves. The areas between the larger veins become contracted, wrinkled, and puffed up so that long, narrow, puffed-up ridges occur on the upper sides of the leaves, running with the course of the veins. It is probable that the thrips live on the undersides of the leaves where their work of rasping the epidermis and of sucking out the sap causes the gall-like ridges along the upper surface.

Adequate material is not at hand to enable me to definitely determine this species. It is certainly very close to *L. umbripennis* Hood. The wings are not black, however, in the basal half and each fore wing contains a light brown streak in the middle which extends for two-thirds of the length of the wing from the base. The head is fully 1.4 longer than wide. The species of the genus *Liothrips* tend to be confined, in general, to certain definite food plants within a rather narrow range. *L. umbripennis* is known from oak only, so far as published records go. It is likely that this species causing galls on *Cornus stolonifera* is an undescribed one. Opportunity will probably be afforded next season to obtain an abundance of material.

The species *Parthenothrips dracaenae* is such a unique one

among the thrips now found in this country that it deserves to be called anew to the attention of entomologists. The fore wings of the species of thrips in the family *Thripidae* are usually long, slender and pointed at the tips and the so-called ring-vein is usually weak. In the case of *P. dracaenae* the

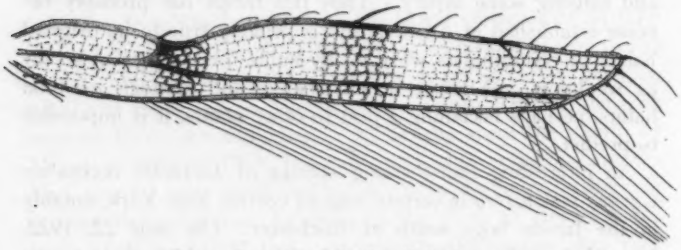

FIG. 1.—Fore wing of *Parthenothrips dracaenae.*

fore wings are broad, very long, and rounded at the ends. Each wing is also plainly reticulated throughout the whole surface. (Fig. 1.) The costal margin of each front wing is distinctly notched at the end of the basal third of its length and at this point in the wing the veins are very dark and the reticulation is heavy and dark so that a conspicuous dark spot appears clear across each wing. About half way of the length of the wing the ring vein both on the costal and on the hind margins is again darkened while the reticulation is also heavy and dark thus forming a second dark spot on the wing not so conspicuous, however, as the first one. The hind wings are also long, and rounded at the ends and reticulated over the whole surface although faintly so, near the tips (Fig. 2).

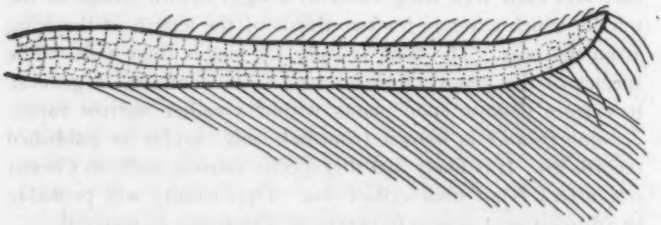

FIG. 2.—Hind wing of *Parthenothrips dracaenae.*

The ring vein of the front wings is very strong and heavy. The wings are much longer than the abdomen in this thrips and project far beyond the body. Due to the long wide wings bearing the black spots as indicated the individuals resemble, at first glance, spotted-winged Diptera or Hymenoptera more than they do thrips. We have found this thrips breeding in the greenhouse on the leaves of *Anthurium* and of the banana plant, *Musa sapientum*. It does not, at this time of year (January), at least, develop in sufficient numbers to cause any appreciable injury.

During the past summer, the writer found plants of the so-called American white hellebore (*Veratrum viride*) much infested with a striking species of thrips which lived on the under sides of the leaves in the creases between the large ribs of the leaves. The thrips were abundant and had scarified the leaves of the plants and produced marked injury to the foliage. The species is a rather striking one because of its fairly large size, brown body and brownish or mouse-gray wings. It stands very close to *Thrips impar* Hood and may be only a variation of that species. *Thrips impar* was collected by J. D. Hood from the flowers of *Impatiens* sp. on Plummer's Island, Maryland, in September. One specimen has also been taken hibernating in moss in Illinois. It is an interesting species because it is sexually dimorphic, the males being of a nearly uniform deep chrome color. Unfortunately no males of the thrips on *Veratrum* were present in June when the writer collected his specimens. Opportunity will be afforded next September to see if males are then present.

The specimens collected by the writer differ from *T. impar* in coloration of the antennae, in the decidedly shorter prothorax and in the longer wings. It is rather interesting to find this thrips on two such distantly related plants in two such widely separated localities. It will be of interest to see what the males are like.

I wish to acknowledge my indebtedness to Prof. J. D. Hood of Rochester University for his courtesy in allowing me to examine his collection of thrips and for his aid in determining species; also to Prof. J. R. Watson of Florida for his trouble in comparing specimens of the thrips on *Veratrum* with species in his collection.

ENTOMOLOGICAL NEWS

PHILADELPHIA, PA., JUNE, 1925.

"Our Financial Column."

Another of our valued subscribers writes: Referring to your editorial in the March issue of the NEWS, personally I am in favor of more pages and a higher subscription rate. I certainly would not like to see the number of pages reduced and am perfectly willing to pay more for the present number. The NEWS has always been worth more than the subscriber has ever paid for it.

I believe that it is poor economy for an entomologist to fail to support his technical journals because they cost three, four or five dollars, as these sums are not to be compared with what many of us squander each year in overeating and other forms of amusement.

It is customary to bewail the rising costs of things, but we all end up by paying and if we get our money's worth we soon become accustomed to the higher price and think nothing of it.

Everything is operating on higher price levels now and I do not believe that entomologists expect to pay pre-war prices for their journals when everything else is up. Certainly not when they stop and think about it.

So put your price up. I do not believe that you will lose any subscribers, because even though we are usually silent when asked to reply to editorials, we are aware that the NEWS cannot be dispensed with and that it is more than worth what we pay.

Since our April issue was published we have received welcome letters from Messrs. E. P. Van Duzee, Z. P. Metcalf, H. Shapley, L. A. Stephenson, H. H. Knight, J. R. de la Torre Bueno, A. E. Miller, A. G. Weeks and F. M. Hull on this subject. We thank them for their interest and kind advice and shall be glad to hear from others also.

Of sixteen subscribers who have expressed opinions, fourteen are in favor of increasing our subscription price and two are against it.

Information Wanted on Papilio troilus (Lepid.).

Editor, Entomological News: Some years ago, while living in Westfield, New Jersey, I caught an aberration of *Papilio troilus* of exquisite beauty. The butterfly was of a pale blue, the underside of the wings corresponding with the upper.

At the time I sold the specimen to a Mr. Frank, president of the American Entomological Company in Brooklyn, New York. The firm does not exist any more and I wonder if there is any record of that butterfly and who owns it at present.

KARL BAUMANN, Cottekill, Ulster County, New York.

L'Abeille.

As is well known, the journal "l'Abeille" is given over to taxonomic works on Coleoptera. The founder, Mr. S. de Marseul, desired that only monographs treating of the Coleoptera of the Old World should be published in this paper. However, Doctor Jeannel, the present director and editor, has made it known to me that he wishes the paper to be more universal, and although most of the works probably will concern the Old World fauna, monographs will be published on the North American fauna as well as on other faunas. Doctor Jeannel says that he can readily publish monographs in English, especially if the manuscript be typewritten. The purpose of Dr. Jeannel's communication is to secure subscribers, as at present the journal's finances are rather inadequate to publish such elaborate papers. A sum received from the Minister of Public Instruction has tided the journal over for the time being. It seems to me that all good coleopterists should rally to the support of this journal, now in its thirty-second volume, especially as its field of vision has been enlarged. Each volume consists of about 320 pages illustrated with numerous figures and plates. The subscription is 30 francs per annum and should be sent to Mr. J. Magnin, Entomological Society of France, 28 rue Serpente, Paris, VIe, Seine. Any specialists who have monographs prepared which they desire published in the journal, should send them to Dr. R. Jeannel, Institut de Speologie, Universite de Cluj, Roumanie. Dr. Jeannel desires especially to organise a scientific collaboration between entomologists of France and America and will be glad to receive communications from any of our coleopterists. He is at present working on a monograph of the *Trechinae* and would like to obtain American specimens.—RICHARD TOMPKINS DE GARNETT, A.B., Oakland, California.

Better Mailing Practices.

A letter, postcard, parcel, or newspaper, entering the mails is simply a piece of mail.

If, because of inadequate or incorrect address, and, in the case of the package—improper wrapping—a piece of mail must be taken out of the regular postal machinery for "directory service" or "hospital service," it becomes a "nixie."

If the postal sleuths are able to correct the address, or return to sender for a better one, it again becomes a piece of mail—though "delayed mail" is the better sobriquet.

If, after an exhaustive effort, the postal "detective" must give up the puzzle, and there is no return address, the piece of mail is consigned to the Dead Letter Office, where it again changes its name to dead letter or dead parcel, as the case may be.

Its period of existence as a nixie is the most expensive one. It demands special attention from the very best clerks. Valuable time is spent in its behalf, time which also may prove more costly to the mailer or intended recipient through the attendant delay.

But in the long run, the postal service loses most. In Chicago 400 workers do nothing but handle nixies. In New York the service costs $500 daily. In all the nixie costs the government about $1,740,000 a year.

U. S. Post Office Department.

Entomological Literature

COMPILED BY E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published.

All continued papers, with few exceptions, are recorded only at their first installments.

Papers of systematic nature will be found in the paragraph beginning with (N). Those pertaining to Neotropical species only will be found in paragraphs beginning with (8). Those containing descriptions of new forms are preceded by an *.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

The titles occurring in the Entomological News are not listed.

4—Canadian Entomologist. 6—Journal, New York Ent. Soc. 7—Annals, Entomological Society of America. 8—The Entomologist's Monthly Magazine. 9—The Entomologist. 10—Proc. Ent. Soc. Washington. 12—Journal of

Economic Ent. 14—Entomologische Zeit., Frankfurt a.M. 15—Insecutor Ins. Menstruus. 18—Internationale Entomolog. Zeit., Guben. 19—Bull., Brooklyn Ent. Soc. 21—The Entomologist's Record. 24—Annales, Soc. Ent. de France. 25—Bull., Soc. Ent. France. 33—Bull. et Annal. Soc. Ent. Belgique. 49—Ent. Mitteilungen, Berlin. 50—Proc. U. S. National Mus. 56—Konowia, Wien. 60—Stettiner Ent. Zeit. 64—Zeit., Oesterr. Ent. Ver., Wien. 68—Science. 75—Annals and Mag. of Nat. History, London. 77—Comptes Rendus d. Seances, Soc. Biologie, Paris. 89—Zool. Jahrbucher, Jena. 111—Archiv f. Naturg., Berlin. 124—Revue Suisse de Zool., Geneve. 126—Revista Chilena Hist. Nat. 149—Ann. Trop. Med. & Parasit., Liverpool. 154—Zoolog. Anzeiger.

GENERAL.—Anguita, F.—La revista Chilena de historia natural sus Bodas de Plata el Prof. Dr. Carlos E. Porter. **126,** xxv, p. xii-xxiv. **Barber, G. W.**—The efficiency of birds in destroying over wintering larvae of the European corn borer. **5,** xxxii, 30-46. **Barnes, T. C.**—A preliminary note upon a honey-dew fungus. **4,** lvii, 69-71. **Brehm, H. H.**—Obituary note. **19,** xx, 96. **Casey, T. L.**—Obituary notice. **10,** xxvii, 41-3. **Effenberger, W.**—Schlupfwespen und wasserinsekten. (Der Naturf., 1924-25, 601-5.) **Hasslein**—Entomologische plauderei. **14,** xxxviii, 109-8 (Cont.) **Horn, W.**—Ueber ordinarien der zoologie und volksschullehrer. **49,** xiv, 1-5. **Howard, L. O.**—The needs of the World as to entomology. **7,** xviii, 1-21. **Kohl, F. F.**—Obituary and bibliography. **56,** iv, 89-96. **Kohler, G.**—Wasser als unfreiwilliger koder oder lichtreflex? **18,** xviii, 284. **Lindsey, A. W.**—Some problems of taxonomy. (Denison Univ. Bull., xxiv, 289-305.) **Meisel, M.**—A bibliography of American natural history. The pioneer century, 1769-1865. Vol. 1, 244 pp. Premier Pub. Co., N. Y. **Myers, P. R.**—Obituary and bibliography. 10, xxvii, 66-7. **Nicholson, C.**—Novel method of collecting. **21,** 1925, 58-9. **Schade, F.**—Eine sammelexkursion nach den bergen von Zentral-Paraguay. **17,** xlii, 13. **Seitz, A.**—Ueber den umfang der sammel-ausbeuten. **17,** xlii, 13-14. **Simon, E.**—Notice necrologique sur. **24,** xciv, 73-98. **Torre-Bueno, J. R.**—On a universal language. **19,** xx, 98. **Weiss, H. B.**—Statistical method and entomology. Entomology in the diary of Samuel Pepys. **6,** xxxiii, 56, 59. **Wiebe, A. H.**—Artificial fertilization of aquatic insects. **7,** xviii, 45-8.

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SPECIAL NOTICES.

Egyptian Diptera, A Monograph of Family Trypaneidae. By H. C. Efflatoun. Mem. Soc. R. Ent. Egypte, Vo. 2, Fasc. 2. This paper of 132pp, 5pls, (2 colored), altho treating of Egyptian species of this family may prove valuable to American students of this group of flies.

OBITUARY.

PAUL REVERE MYERS, in charge of the Hessian Fly Laboratory of the Federal Bureau of Entomology, at Carlisle, Pennsylvania, died February 12, 1925. He was born at Harrisburg, in the same state, February 15, 1888, and served in the Pennsylvania Bureau of Economic Zoology, in the United States National Museum and, from 1914, in the federal Bureau of Entomology. We take these data from an obituary notice in the April, 1925, issue of the *Proceedings of the Entomological Society of Washington,* which includes a list of seven papers on parasitic Hymenoptera of which he was author.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale. Notices not exceeding three lines free to subscribers.

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